DELAWARE STATE MEDICAL JOURNAL

Official Organ of the Medical Society of Delaware

INCORPORATED 1798

VOLUME X
NUMBER 7

JULY, 1938

Per Year $2.00
Per Copy 20c

CONTENTS

TUMORS OF THE MOUTH AND JAWS. *Robert H. Ivy, M. D., D. D. S.*, Philadelphia, Pa. 147

MALOCCLUSION. *George M. Anderson, D. D. S.*, Baltimore, Md. 152

MEDICO-DENTAL RELATIONSHIPS. *E. Lucas Bruce, D. D. S.*, Baltimore, Md. 156

THE INTERRELATIONS OF DENTISTRY AND INTERNAL MEDICINE. *Sidney R. Miller, M. D.*, Baltimore, Md. 159

MISCELLANEOUS 163

EDITORIAL 165

SOCIETY REPORTS 171

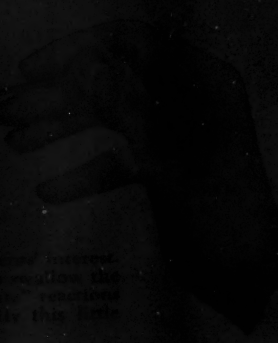
Entered as second-class matter June 27, 1928, at the Post Office at Wilmington, Delaware, under the Act of March 3, 1879. Business and Editorial offices, 1102 Delaware Trust Building, Wilmington, Delaware. Issued monthly.

Copyright, 1938, by the Medical Society of Delaware

HIS FIRST SOLID FOOD

PABLUM is now being fed to infants as early as the third or fourth month because it gets the baby accustomed to taking food from a spoon, but, also important, Pablum early adds essential accessory food substances to the diet. Among these are vitamins B1 and G and calcium, and, equally essential, iron. Soon after a child is born its early store of iron rapidly diminishes and, as milk is poor in iron, the loss is not replenished by the usual formula. Pablum, therefore, fills a long felt need, for it is so well tolerated that it can be fed even to the threeweeks' baby afflicted with pyloric stenosis, and yet is richer than fruits, meats, and vegetables in iron. Even more significant, Pablum has succeeded in raising the hemoglobin of infants in certain cases where an iron-rich vegetable failed. Pablum is an ideal "first solid food."

Mothers appreciate the convenience of Pablum as it needs no cooking. Even a tablespoonful can be prepared simply by adding milk or water of any temperature.



Pablum consists of wholemeal (whole) cereal, cereal germ, wheat gluten, yeast, brewers' yeast, calcium carbonate, and sodium chloride.

FURNISHED IN ADVERTISED QUANTITY TO PHYSICIANS

MEAD JOHNSON & CO.
EVANSVILLE, INDIANA, U. S. A.

PARKE-DAVIS THEELIN AND KAPSEALS THEELOL

Theelin, introduced to the medical profession in January, 1931, by Parke, Davis & Company, marked a new phase in endocrine therapy. This active estrogenic substance was isolated and identified both chemically and pharmacologically by Dr. E. A. Doisy of St. Louis University. Subsequently Dr. Doisy isolated Theelol, a related product. The further development of these two preparations for clinical application was carried out through cooperative work on the part of the staffs of the Research Laboratory and the Department of Experimental Medicine of Parke, Davis & Company.

Theelin (ketohydroxyestratriene) for intramuscular administration, and Theelol (trihydroxyestratriene) for oral use, are chemically pure estrogenic substances rigidly standardized by physiological and chemical methods. To facilitate proper dosage, the following package forms are available:

FOR INTRAMUSCULAR ADMINISTRATION

THEELIN (AQUEOUS) AMPOULES
0.02 mg.—200 international units
(Ampoule No. 167)

THEELIN IN OIL AMPOULES
0.2 mg.—2000 international units
(Ampoule No. 179)

THEELIN IN OIL AMPOULES
0.1 mg.—1000 international units
(Ampoule No. 178)

THEELIN IN OIL AMPOULES
1.0 mg.—10,000 international units
(Ampoule No. 182)

Supplied in boxes of six and fifty 1-cc. ampoules.

FOR VAGINAL ADMINISTRATION

THEELIN VAGINAL SUPPOSITORIES
0.2 mg.—2000 international units

Supplied in boxes of six suppositories.

FOR ORAL ADMINISTRATION

KAPSEALS THEELOL
0.06 mg. (No. 353)

KAPSEALS THEELOL
0.12 mg. (No. 358)

Supplied in bottles of 20, 100 and 250.

Descriptive literature, discussing these products in detail, is available on request.

The World's Largest Makers of Pharmaceutical and Biological Products

PARKE, DAVIS & COMPANY

DETROIT MICHIGAN

BASIC OPERATIONS IN COMMERCIAL CANNING PROCEDURES

V. HEAT PROCESSING THE SEALED CONTAINER

● Previously, we have described how raw food material is sealed in the tin container after proper preparatory treatment. After sealing, the next important step in commercial canning is the heat process, or "process" as it is called in the industry.

Essentially, the processing operation involves exposure of the sealed container to hot or boiling water, or to steam under pressure, for the correct period of time. The purpose of the process is to destroy pathogenic or spoilage organisms which may be present on raw food material; the seal on the can then prevents re-infection of the foods by such organisms. Thus, the sealing and processing operations combine to insure a sound, wholesome canned product.

It is not possible here to review all factors which must be considered in the establishment of an adequate heat process for any specific product. Such factors have been briefly discussed in recent publications (1, 2). It must suffice to state that, in general, commercial processing operations are divided into two general types, depending upon the acidity of the food being canned.

The "acid" foods—including the common fruits and certain vegetables or vegetable products whose pH values fall below 4.5—are quite easily heat processed. With such foods it is only necessary to heat the sealed container long enough to permit the attainment of a definite temperature in the center of the can (usually 200°F. or slightly less). In fact, some acid products may be processed by filling sufficiently hot, sealing and inverting the cans, and cooling without further process.

The "non-acid" foods—such as meat, sea foods, milk and most of the common vegetables—require temperatures above that of boiling water for adequate heat processing. Such foods are processed under steam pressure in a closed "retort", usually at a temperature of 240°F. Years of research have made possible the issuance for the guidance of modern canners of a bulletin listing recommended process schedules for the non-acid products (3).

Regardless of the temperature of processing, equipment is available which permits use of the batch or "still" process, and the "continuous" or "agitating" types of process for sealed cans. Improvements in processing machinery and accessory instruments during the past two decades permit precise, scientific control of commercial processing operations.

Above all, however, the modern canner has a clear understanding of the underlying purpose of the process and a deep appreciation of the necessity for strict supervision of the processing operation. Commercially canned foods, consequently, must be ranked today among the most wholesome foods coming to the American table.

AMERICAN CAN COMPANY

230 Park Avenue, New York, N. Y.

(1) 1938 Food Research 3, 13. (2) 1937. J. Amer. Med. Assn. 109, 1046. (3) 1937. Natl. Canners Assn. Bull. 26L, 3rd ed.

This is the thirty-eighth in a series of monthly articles, which summarize, for your convenience, the conclusions about canned foods reached by authorities is nutritional research. We want to make this series valuable to you, so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Council on Foods of the American Medical Association.

Cosmetics and Your Patient's Morale

☆

THE DOCTOR IS OF NECESSITY A STUDENT OF LIFE. Each new patient presents a new study, a new problem. Psychology plays an important role in the course of treatment he prescribes. With some patients he must be frank to a point of harshness, with others he must be gentle and coaxing. The nature of the illness and, more particularly, the nature of the patient determine his attitude. He knows from experience the value of bolstering his patient's morale. As a student of psychology he knows that few things are more depressing to a woman than the fear that she is losing her charm; that when she no longer cares how she looks the chances are she has lost touch with a vital interest in life. And because he appreciates the importance of a sensible interest in personal appearance he quite rightly encourages his patients to look their best at all times. FINE COSMETICS appeal to that interest. That is why they deserve to be recommended by doctors who are, after all, greatly concerned with their patient's morale.

LUZIER'S, INC., MAKERS OF FINE COSMETICS & PERFUMES

KANSAS CITY, MO.

To a lazy boy on a warm summer day sleep comes easily. To a patient oppressed by fear of operative procedure or illness, sleep may be difficult. Under such circumstances sleep is essential—and often the use of a safe sedative will prove beneficial.

Ipral Calcium has been used for over 12 years as a safe, effective sedative. No untoward organic or systemic effects have been reported from its use in the usual therapeutic doses. It produces a sleep closely resembling the normal from which the patient awakens generally calm and refreshed. Ipral Calcium is readily absorbed and rapidly eliminated. Undesirable cumulative effect may be avoided by proper regulation of the dosage.

Ipral Calcium (calcium ethylisopropylbarbiturate) is supplied in 2-gr. tablets and in powder form for use as a sedative and hypnotic, and in ¾-gr. tablets for use where it is desired to secure a continued mild sedative effect throughout the day.

Ipral Sodium (sodium ethylisopropylbarbiturate) is supplied in 2-gr. capsules for hypnotic use and in 4-gr. tablets for pre-anesthetic medication.

For literature address Professional Service Dept., 745 Fifth Ave., New York

Elixir Ipral Sodium—Useful where a change in the form of medication is desirable. One teaspoonful represents 1 gr. of Ipral Sodium. Available in 16-fl. oz. bottles.

Ipral PRODUCTS

MADE BY E. R. SQUIBB & SONS, MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

N. B. DANFORTH, Inc.

WHOLESALE DRUGGIST

Agents for all the

Principal Biological, Pharmaceutical and General Hospital Supplies

Full and Fresh Stock Always on Hand

We Feature CAMP Belts

. . fitted by a graduate of the Camp school

Expert Fitters of Trusses

Oxygen Also Supplied

SECOND AND MARKET STREETS

WILMINGTON, DELAWARE

A STUDY FOR THE DOCTOR

A STUDY of the subject of irritation of the nose and throat due to smoking has been reported in the pages of a scientific journal. It describes the method for evaluating the irritant properties of cigarette smoke and the results obtained.

This study shows conclusively that cigarettes made by the Philip Morris method of manufacture are definitely less irritating.

Reprints* of this and other articles on the subject of irritation due to smoking will be sent on request.

Tune in to "JOHNNY PRESENTS" on the air Coast-to-Coast Tuesday evenings, NBC Network... Saturday evenings, CBS Network... Johnny presents "What's My Name" Friday Evenings — Mutual Network

PHILIP MORRIS & CO.

PHILIP MORRIS & CO. LTD., INC., 119 FIFTH AVE., NEW YORK

*Please send me reprints of papers from

Proc. Soc. Exp. Biol. and Med., 1934 32, 241-245 ☐ N. Y. State Jour. Med., 1935, 35-No. 11, 590 ☐

Laryngoscope, 1935, XLV, 149-154 ☐ Laryngoscope, 1937, XLVII, 58-60 ☐

SIGNED: _____ M. D.
(Please write name plainly)

ADDRESS _____

CITY _____ STATE _____

DEL

THE LAUREL SANITARIUM

WASHINGTON BOULEVARD MIDWAY BETWEEN BALTIMORE AND WASHINGTON

LAUREL, MARYLAND

AEROPLANE VIEW 163 ACRES ESTABLISHED 1905

NERVOUS AND MENTAL CASES
ALCOHOLIC AND DRUG HABITS

INDIVIDUAL TREATMENT
AMPLE FACILITIES

PHONE LAUREL 125 JESSE C. COGGINS, MEDICAL DIRECTOR

16,000 ethical practitioners

Since 1902

carry more than 50,000 policies in these Associations whose membership is strictly limited to Physicians, Surgeons and Dentists. These Doctors save approximately 50% in the cost of their health and accident insurance.

$1,500,000 Assets

We have never been, nor are we now, affiliated with any other insurance organization

Send for application for membership in these purely professional Associations.

$200,000 Deposited with the State of Nebraska for the protection of our members residing in every State in the U. S. A.

PHYSICIANS CASUALTY ASSO.
PHYSICIANS HEALTH ASSO.
400 First National Bank Building

Since 1912 OMAHA NEBRASKA

Behind MERCUROCHROME

(dibrom-oxymercuri-fluorescein-sodium)

is a background of

Precise manufacturing methods insuring uniformity

Controlled laboratory investigation

Chemical and biological control of each lot produced

Extensive clinical application

Thirteen years' acceptance by the Council of Pharmacy and Chemistry of the American Medical Association

A booklet summarizing the important reports on Mercurochrome and describing its various uses will be sent to physicians on request.

Hynson, Westcott & Dunning, Inc.
BALTIMORE, MARYLAND

REGULATION

Regulation of the daily program, especially diet and exercise, is beneficial to normal bowel movement and in some cases of constipation serves as sufficient treatment. Others require additional aid to facilitate regular evacuation . . . When an adjunct to diet and exercise is required, as it often is, Petrolagar provides a mild but effective treatment. Its miscible properties make it easier to take and more effective than plain mineral oil. Further, by softening the feces, Petrolagar induces large, well formed stools which are easy to evacuate. The five types of Petrolagar afford a choice of medication adaptable to the individual patient. Petrolagar Laboratories, Inc., 8134 McCormick Blvd., Chicago, Illinois.

Petrolagar . . . Liquid petrolatum 65 cc. emulsified with 0.4 Gm. agar in a menstruum to make 100 cc.

Institutional Equipment

Of the Finest

Scammell's China
Vollrath Enamel
Wear-Ever Aluminum

SWIFT'S
303 SHIPLEY STREET
Wilmington, Delaware

SINCE 1874

it has been our aim to have our goods represent greater value for the amount of money expended than can be supplied by any other house. Our connections and facilities enable us to supply the freshest of

FRUITS AND VEGETABLES
in Season and Out
GEORGE B. BOOKER COMPANY
102-104-106 East Fourth St.
Wilmington, Delaware

FREAR'S

Produce
Pasteurize
and
Serve

GRADE "A"
MILK & CREAM
Dover, Del.

EVALUATION and comparison are the natural processes by which the physician selects his armamentarium. Lilly pharmaceuticals and biologicals are offered solely on their merits, and are supported by more than sixty years of research and pharmaceutical experience. The Lilly trademark stands today, as in the past, for co-operation with the medical profession in unprejudiced evaluation of therapeutic agents.

CARBARSONE

New cases of amebiasis and of amebic dysentery are likely to be discovered during summer months. Carbarsone provides effective treatment. This pentavalent arsenical is unusually safe to administer.

Carbarsone, Lilly, is supplied in Pulvules (filled capsules) and Tablets, for oral use, and in Substance for preparation of therapeutic enemas.

Carbarsone Suppositories are available for the treatment of trichomonas vaginalis vaginitis.

ELI LILLY AND COMPANY
INDIANAPOLIS, INDIANA, U.S.A.

DELAWARE STATE MEDICAL JOURNAL

Owned and Published by the Medical Society of Delaware
Issued Monthly Under the Supervision of the Publication Committee

Volume X
Number 7

JULY, 1938

Per Year $2.00
Per Copy 20c

TUMORS OF THE MOUTH AND JAWS*

ROBERT H. IVY, M. D., D. D. S.**
Philadelphia, Pa.

Most of the new growths that form in various parts of the body may be found about the mouth and jaws, and in addition there are certain tumors and cysts that are peculiar to this region. I have the impression that the medical profession as a whole is not as familiar as it should be with many of these growths, and is inclined to regard them as being chiefly the concern of the dentist. I believe that the physician should have a better understanding of conditions of the mouth and jaws than is many times the case, in order that the patient may not be unduly alarmed by diagnosis of a benign growth as a malignant one, or, on the other hand, be suffering from a carcinoma or a sarcoma unrecognized until too late for treatment to be effective.

In the brief time at my disposal I can only give a sketchy outline of the more important growths occurring in this region. There is a group of conditions which resemble one another clinically, causing a slow, often painless enlargement of the upper or the lower jaw, but which differ radically in that some are not true tumors, some are benign, some malignant, and therefore demand wide variation in treatment. From this it is evident that correct diagnosis is of prime importance, if we are to avoid performance of a radical mutilating operation on the jaw for a growth that is curable by simple enucleation, or if we wish to escape temporizing with a malignant lesion which should have radical treatment at the earliest possible moment.

The principal new growths within the jaw bones which may resemble one another clinically and thus present difficulties in differential diagnosis are:

1. Dento-cystic tumors
   (a) Adamantinoma or ameloblastoma
   (b) Dentigerous cyst
   (c) Dentoperiosteal or dental root cyst.
2. Localized osteitis fibrosa.
3. Benign giant cell tumor.
4. Sarcoma.
5. Metastatic growths.
6. Traumatic or hemorrhagic cysts.

In typical cases all of these are characterized by practically painless, slowly growing expanding swelling of the bone, with thinning of the cortical plate and later breaking through the cortical plate and bulging into the soft tissues.

1. DENTOCYSTIC TUMORS.

(a) *Adamantinoma* or *ameloblastoma.*

Origin. Aberrant growth of epithelial cells which are prototypes of those forming the inner layer of the enamel organ (ameloblasts).

Pathologic anatomy. Cavity in bone divided into numerous compartments by fibrous or bony septa. Some of the spaces are cystic, containing fluid, others are filled with solid tissue. Epithelium is cuboid or columnar, and arranged in strands or alveoli, surrounding a stellate reticulum.

Age of occurrence. Any age.

X-ray shows cavity in bone divided by fine trabeculae into compartments varying in size.

Clinical characteristics. Painless expansion of bone, usually in molar region of mandible, slowly increasing in size. There may be an opening into mouth from cystic cavity.

Prognosis. Recurrence common unless radical operation is done.

Treatment. For small growths, shelling out and curettement may suffice. For larger ones, complete resection of portion of mandible involved is indicated.

*Read before the Medical Society of Delaware, Wilmington, October 13, 1937.

**Professor of Maxillo-Facial Surgery, University of Pennsylvania.

(b) *Dentigerous cyst.*

Origin. Cyst lining formed by epithelium of outer layer of enamel organ.

Pathologic anatomy. Single cavity in bone. Membrane is lined with layers of squamous epithelium. Cavity contains thin fluid and the crown of an unerupted tooth projects into the cyst from the bony wall.

Age. Occurs at any age, but particularly about time of eruption of permanent teeth.

X-ray shows clear area of absence of bone with well-defined margins, containing an unerupted tooth.

From the foregoing, it is evident that the term dentigerous should not be applied to all cysts of dental origin, as is frequently noticed in the literature, but only to those having the crown of a tooth in the cavity. In the upper jaw a dentigerous cyst may expand and occupy the space normally belonging to the maxillary sinus, pushing up the floor of the latter, but rarely breaking into it spontaneously.

Clinical characteristics. Slowly increasing expansion of a part of the bone, which later may become very thin and give a parchment or celluloid feeling. Absence of a tooth from the series in the region of the swelling is significant.

Prognosis. Readily cured by suitable conservative operation.

Treatment. Operation through flap of gum. Complete removal of cyst, with its capsule, together with unerupted tooth.

(c). *Dental root cyst or dentoperiosteal cyst.*

Origin. Abnormal growth of epithelial cell-rests normally present in dental periosteum, derived originally from outer epithelial layer of enamel organ (paradental epithelial cell-rests of Malassez).

Pathologic anatomy. Cavity in bone about apex of permanent tooth whose pulp has been devitalized. Cavity lined with multiple layers of squamous epithelium and contains fluid with cholesterin crystals. Cysts vary in size from a pea to a hen's egg. In the maxilla, like the dentigerous cyst, the dental root cyst may encroach on the maxillary sinus or the nasal fossa, but rarely ruptures into these cavities. It may push up the floor of the maxillary sinus until the latter is entirely obliterated. By extension, the cyst may gradually involve the roots of adjacent healthy teeth, causing secondary pulp devitalization. These cysts usually occur in adults.

The *x-ray* shows a radiolucent area in the bone with clearly defined margins, in connection with the apex of a pulpless tooth or in a part of the bone from which such a tooth has been lost.

Clinical characteristics. Presence of a pulpless tooth or a history of previous removal of such a tooth. Slowly increasing painless expansion of the bone. In cases of doubt, needle puncture under aseptic conditions will establish the diagnosis. In edentulous regions of the upper jaw, it may be difficult to differentiate in the x-ray film the wall of a cyst from the floor of the maxillary sinus. Needle puncture is valuable here.

Prognosis. Readily cured by suitable operation.

Treatment. Flap made in gum, removal of offending tooth, if present, epithelial lining shelled out in most cases.

2. LOCALIZED OSTEITIS FIBROSA.

Osteitis fibrosa is a chronic disease of bone first described by von Recklinghausen in 1891. Until recently the cause was obscure. It is now recognized that there are two distinct forms: the generalized form, always associated with hyperparathyroidism and an excessive amount of blood serum calcium; and the localized osteitis fibrosa which may affect one or more bone areas but in which no parathyroid overactivity or increase in blood calcium can be demonstrated. The bone changes in all forms are essentially the same, trauma being often responsible for the localized form. In the jaws, the mandible is more frequently involved than the maxilla.

The disease usually occurs in children and young adults and is characterized by the appearance in the shafts of the long bones and occasionally in other bones of circumscribed areas where, instead of true bone there is osteoid tissue without calcification of the trabeculae. The area is usually poorly supplied with vessels and often has cysts in it. It is usually sharply circumscribed and often progresses painlessly and slowly until the bone is so weakened that a pathological fracture following slight trauma first calls attention to it. Sometimes there are giant cells found in relation to the cysts.

Symptoms and diagnosis. There is a painless localized expansion of the bone, slowly increasing in size over a period of months, which in the jaw cannot be distinguished clinically from the adamantinoma or any slowly growing tumor. Even by x-ray examination it is frequently difficult to differentiate, since the roentgenogram shows a moth-eaten or honeycombed condition of the bone, with well-defined margins, and areas with larger spaces. The presence of several areas of this kind in the bone would make the diagnosis of osteitis fibrosa more probable. One should make sure that the jaw lesions are not part of the generalized form by thorough search for areas in other bones of the body and by examination for parathyroid enlargement or blood calcium increase. In the absence of these latter, it may be impossible to make a diagnosis of osteitis fibrosa, without pathological examination of tissues removed at operation.

Treatment. In the form localized to the jaw this is mainly surgical, and consists in removal of the diseased bone area. The extent of the operation to be performed will depend on the amount of involvement. In the case of small areas, curettement or shelling out of the diseased area will suffice, whereas in extensive cases, resection in continuity of the mandible may be necessary. We have recently performed the latter operation in three cases of extensive osteitis fibrosa, followed by restoration with bone graft. In the generalized form of osteitis fibrosa, removal of a parathyroid tumor has been successful in arresting the further development of the disease.

3. BENIGN GIANT CELL TUMOR.

These growths were formerly called giant cell sarcomas, and, regarded as malignant, occasioned radical and mutilating operations and unnecessary sacrifice of tissue. It is now known that these growths are not malignant, and that they usually require only local removal. Some pathologists regard them as a manifestation of osteitis fibrosa.

The benign giant cell tumor involves the lower jaw more frequently than the upper, causing a slow painless expansion of the inner and outer cortical plates. If the cortical plate or the alveolar border becomes perforated by the tumor, the mass under the mucous membrane of the mouth will have a characteristic purplish color. Otherwise, absolute diagnosis may not be possible before operation. On incision, these growths have a dark red color, as contrasted with the true sarcoma, whose tissue is usually a pale gray. Giant cell growths generally respond to enucleation of the tumor mass without extensive encroachment on the surrounding healthy bone. In cases seen late, with perforation of the cortical plates, resection of the involved portion of the jaw is sometimes necessary.

Sarcoma.

Sarcoma, the malignant tumor of mesoblastic tissue may be found in the jaws. When involving the interior of the bone, it causes a slow, painless expansion, later increasing more rapidly. No age is exempt from the disease. In the upper jaw, the maxillary sinus may be involved, with later invasion of the nasal fossa and other sinuses. The cells composing the sarcoma may vary greatly, and the histological picture will often give some clue as to their virulence. Rapid growth is indicated by numerous mitotic figures. Metastases usually occur through the blood stream, and are most frequently found in the lungs. Before treatment of a sarcoma is undertaken, roentgen ray examination of the chest should always be made, because if lung metastases exist, treatment of the local growth may be useless.

The x-ray is sometimes useful in distinguishing sarcoma of the jaw from cysts, giant cell tumor, osteitis fibrosa, etc. In sarcoma the outlines of the growth as seen in the x-ray film are usually less well defined and more irregular than in the other cases.

Treatment. This should be more radical than in any other tumor of the jaws, when operable at all. Surgery can be advantageously preceded and followed by radium or x-ray therapy.

5. METASTATIC GROWTHS.

Carcinoma of the jaw bones is usually a direct extension from a primary growth of the oral mucous membrane. Occasionally, it may occur as a true metastasis from carcinoma elsewhere. In the presence of an unexplained swelling of the jaw bearing the characteristics of a tumor, the possibility of a metastatic growth should be borne in mind.

6. TRAUMATIC OR HEMORRHAGIC CYSTS.

Cavities may form in the mandible, comparable to cysts formed in the long bones as the result of trauma. All cases described have been in adolescents, due to intramedullary hemorrhage following trauma insufficient to cause fracture. The intraosseous hemorrhage causes absorption of the bony trabeculae of the spongiosa producing a cavity. Diagnosis may be difficult. It depends on a history of trauma in young patients, insufficient to cause fracture, with later development of dull pain, and sometimes a swelling in the body of the mandible; x-ray findings of a well-defined, somewhat irregular cavity in the bone along the course of the inferior dental canal, with no apparent connection with the roots of the teeth, the pulps of the latter being vital. Differentiation from dentoperiosteal cyst or dentigerous cyst may be impossible before operation. The most striking thing on opening into the cavity at operation is the apparent absence of any lining membrane, which is always present in cysts of dental origin. Treatment consists in opening into the bone cavity after exposure through a flap of gum and evacuation of the fluid contents. The bone cavity is preferably kept open and allowed to heal by granulation.

Nasopalatine cysts.

Another form of cyst is found in the upper jaw which is not of dental origin, but may be mistaken for a dental root cyst. Cysts developing in the interincisive region of the maxilla have been described by Meyer, Schroff, Thoma, Goodman and others, and should be of special interest to the rhinologist owing to their intimate relationship to the floor of the nose. They probably arise from epithelial remnants of the nasopalatine duct. When large, such a cyst may present a swelling in the region of the interincisive papilla in the hard palate, but may be detected only by x-ray examination, which shows a well-defined radiolucent area above and between the apices of the maxillary central incisors. These areas, when small, have commonly been regarded as simple enlargements of the incisive fossa. Sometimes secondary infection occurs, with discharge of pus and mucoid material through an opening in the gum, usually at the site of the interincisive papilla. A cyst of this type may be differentiated from a dental root cyst connected with a central incisor, by the fact that the pulps of these teeth may be vital, and on making x-ray films in different positions the relationship of the cyst shadow to the apices of the teeth will vary.

Treatment. The cyst is usually best approached by laying back a flap of gum on the palatal aspect of the central incisors. Sufficient bone is removed with chisel and rongeur forceps to expose the cyst cavity, and if possible the epithelial lining is then shelled out. This lining sometimes extends in a narrow channel high up toward the nose, surrounding the nerve and blood vessels in the canal, consequently it may be very difficult to remove completely. To insure its destruction the operation may be followed by the application of Cutler's sclerosing solution.

Calcified dental anomalies.

In addition to the cystic and soft tissue growths originating in the dental epithelium, calcified masses of dental tissue, usually called odontomas, are not infrequent. In the commonest form, the calcified tissues are irregularly intermingled and have no definite shape. Here we have a disordered conglomeration of enamel, dentine and cementum. The mass may be unerupted or erupted. These growths may be discovered at any age, and are frequently not recognized until supervening infection causes osteomyelitis, when the hard masses are often mistaken for necrotic bone. They are found in either jaw, and generally in the molar region. In the upper jaw, such a mass may encroach on the space of the maxillary sinus. Frequently there is a normal unerupted tooth beneath the anomalous mass. An irregular swelling of the bone that has existed for a long period and has practically not changed in size, in the absence of a tooth, will suggest a calcified dental anomaly. The radiograph will always reveal the nature of the trouble. If a fistula is present and a probe is passed, the hard dense character of the tissue is felt to be quite distinct from bone.

Treatment. If acute symptoms are present, with swelling, redness and edema of the tissues of the face, and suppuration from the bone, early treatment should consist of incision and drainage. After acute symptoms have subsided, the growth should be removed, usually

from within the mouth. It may be necessary to turn back the overlying gum and cut away some of the bone covering it.

Torus palatinus.

This is an exostosis in the region of the median palatine suture of the maxilla, presenting an oval, usually smooth but sometimes nodular hard swelling in the roof of the mouth. To the uninitiated, this may be mistaken for a sarcoma or other malignant tumor. The torus palatinus is found normally as a developmental condition in a considerable percentage of people. It undergoes no changes in size over a period of years and causes no pain. Most persons are unaware of the presence of the growth until attention is called to it by a physician or someone examining the mouth or throat. It demands surgical treatment only when the overlying soft tissues become irritated by rubbing or when the swelling interferes with the proper fitting of an artificial denture.

Osteitis deformans, or Paget's disease, sometimes affects the upper jaw. In the maxilla, a hard, smooth swelling covered by normal gum tissue is seen in the region of the molar and premolar teeth. As the disease progresses, the swelling may be seen externally. The x-ray usually reveals consolidation of the facial bones and sinuses, with a peculiar mottling and thickening of the cranial bones. The etiology and cure are unknown, the chief interest of the disease here being its differentiation from other lesions more amenable to treatment.

Fibrous osteoma of the jaws.

We occasionally see a localized bony hyperplasia, usually in the upper jaw but sometimes in the lower, which presents a very slowly progressive hard smooth bulging of the bone, beginning in the region of the alveolar process. It is nearly always unilateral, and sometimes causes a visible external swelling. No pain is experienced. This condition has been recently well described by Phemister and Grimson in Annals of Surgery, 1937: 105, 564. Radiographically, the bone is seen to be homogeneous and of moderate density, sometimes in the upper jaw encroaching in the maxillary sinus. The bone is not hard, but can be pared easily with a knife or chisel. Our practice in such cases has been not to attempt to remove all of the overgrowth, but to turn back a flap of the overlying gum and pare off the excess with a knife or chisel to restore the normal contour. So far, we have not had occasion to repeat the procedure on account of recurrence.

This discussion has covered a rather wide territory, yet of necessity many conditions that could have been mentioned have been omitted. It is hoped that what has been said will stimulate the interest of the physician in a somewhat neglected field. (Lantern slide demonstration.)

DISCUSSION

DR. DOUGLAS M. GAY (Wilmington): There is no part of the human body where there is a greater variety of tumors in the smaller areas than there are in the oral cavity. As we have seen from this very comprehensive description, there are tumors that concern the surgeon, the roentgenologist, and the pathologist, and even the neurosurgeon.

I have a question regarding these tumors that I would like to ask. Dr. Ivy described the giant cell tumor of the bone. I would like to ask him what relation there is, if any, between the giant cell tumor of the bone and the giant cell epulis. Both tumors are microscopically very similar.

DR. JOHN F. HINES (Wilmington): I think we heard an excellent review of this subject of the jawbones. It is very puzzling to most people who do not see a great many of them.

I should like to call attention to one other tumor occurring in the palate which might be taken for the torus palatinus that Dr. Ivy described, and that is the mixed tumor of salivary gland origin which is sometimes found in the palate, presumably arising from the minor salivary glands that lie in the mucous membrane of the mouth. That is a smooth, relatively elastic tumor, usually covered by intact mucous membrane. It does continue to grow, and it will produce destruction of the surrounding bones by pressure, although the pure picture, of course, is not especially invasive. Its location, which is frequently near the middle of the palate, is such that it could be mistaken for torus palatinus on superficial inspection.

DR. J. PAUL WINTHROP (Wilmington): I do not think it would be appropriate for a

neophyte like me to discuss anything that Dr. Ivy might have said, but, being a representative of the dental profession here, I want to express my gratitude to him for coming down and acquainting the physicians of our city with some of the very common things that we find daily in dentistry.

DR. IVY: In regard to the benign giant cell tumors, I do not think there is any difference at all between the epulis, which appears to push it out on the surface, and the one that is found more on the interior of the bone. I think they are all the same, except for the location. Many regard them as a certain stage of osteitis fibrosa, and due to some calcium disturbance.

This particular growth is benign, and it does not require a radical operation. I have a slide showing a mixed tumor of the palate that I did not put on. Mixed tumors have been found in the hard and soft palate, sometimes under the mucous membrane of the cheek, in the lip, and sometimes in the tongue. They usually are associated with salivary glands. A mucous cyst of the middle of the hard palate might also look like the torus palatinus.

MALOCCLUSION*

GEORGE M. ANDERSON, D.D.S.**
Baltimore, Md.

The mental image I give you of malocclusion of the teeth as one of the problems in which the physician and the dentist have a mutual interest is more suggestive than exhaustive in scope. This approach is necessary because of the full program for the evening. It is in no sense because the subject is not worthy of more extensive consideration, for the functional and esthetic importance of sound, well-positioned teeth and the public's inquiries regarding malocclusion make it essential that practitioners of the health professions acquaint themselves with this phase of dental science, termed orthodontia, its aims, what the term in general implies and the benefits to be received therefrom.

Malocclusion has been defined as "any deviation from the normal relation of the teeth in the dental arch to each other and to the teeth in the opposing arch." For our purposes this definition will suffice.

Orthodontia has been defined as "that science which has for its object the prevention and correction of malocclusion of the teeth." This definition as it stands does not suffice. It is quite specific but too circumscribed for it speaks only of the teeth. There is no reference to the structures which support the teeth or which serve to make them useful. The roots of teeth are embedded in bone forming a considerable part of the human face. If teeth are far from their normal positions the bone in which their roots are embedded is certainly altered in form if not in quality or quantity. There are oral deformities such as cleft palate, for instance, in which we find malocclusion of the teeth a very important factor. Orthodontic treatment in these cases looks upon evenly aligned teeth as a secondary consideration and concerns itself primarily with overcoming developmental deficiencies in quantity, position and form of the associated hard and soft oral structures. While teeth are essential to the act of mastication they are no more so than the muscles which open and close the jaw. Malocclusion of the teeth interferes with the normal functioning of the muscles of mastication. High palatal vaults, as a result of change in bony form through the misdirection of occlusal forces from teeth in malposition, create nasal problems, and high palatal vaults caused by hereditary and environmental influences result in protrusion of erupting teeth. With this broader understanding, the simple quoted definition will suffice though it does not indicate the varied nature or complexity of the problems.

The field of orthodontics aims to "recognize, minimize and eliminate factors responsible for irregular teeth, to assist with mechanical devices in the development of the jaws and dental arches, to aid in establishing normal functional activity of the teeth, oral tissues and associated structures, and to improve facial appearance." It is a bio-mechanical division of health service. When growth

*Read before the Delaware Academy of Medicine, Wilmington, May 2, 1938.

**Professor of Orthodontia, University of Maryland.

and development of the area which Keith and Campion call "the masticating face" are inhibited we have to depend upon the mechanical appliances for needed stimulation, and the response to these appliances varies in degree according to the vital processes of the individual patient. In fact our mechanical appliances are only used to augment inherent possibilities within the structures themselves.

Benefits to be obtained from carefully planned and properly executed orthodontic treatment are numerous. The ability to incise and masticate food properly is one of the essential requirements to health, growth and comfortable living. Improvement in mastication, however, is not always appreciated by the child or parent, but to the dentist and physician, no more justifiable reason could exist for sustained efforts to prevent or correct malocclusion of the teeth. Laudable as this objective is, however, we are forced to recognize that mastication of food is not the only function of teeth or reason for their existence. They have an important place in speech, in respiration and materially affect one's appearance. The competitive life we lead makes it essential for success and happiness that we be able to make use of every natural advantage. Sound, well-positioned teeth are a natural asset. Since first impressions are often lasting, the restoration of natural character and beauty to the face marred by an unsightly alignment of the teeth is as important as any objective in orthodontic treatment, and the benefits much to be desired. Though protruding teeth are objectionable from the esthetic side, and readily call our attention to the need for treatment, they also act as a mechanical separator of the lips, aiding in establishing the habit of *mouth breathing*. The habit is easily established, under such circumstances, regardless of the size or clearness of the respiratory passages. The constant drying of the oral mucosa contributes an unfavorable situation for tissues that are normally and essentially moist. The elimination of the protrusion of the upper teeth sufficiently early in life will permit the lips to assume more natural form, position and function, and the habit of normal nasal breathing may be re-established. The benefits mentioned have all been general in character, and I have deliberately refrained from mentioning those strictly of a dental nature.

The ultimate goal, of course, is to make these benefits as available through prevention of the causes of malocclusion as through corrective efforts.

The general practitioner of dentistry and the orthodontic specialist can, through observation of patients in the developing years, offer simple suggestions and remedial measures towards the prevention of malocclusion. There are instances, of course, in which malocclusion of the teeth can be considered as only symptomatic of or a mere incident in a deficiency in individual growth and development. These are closely associated with inhibited growth processes of the entire body, affecting also the size and form of the jaw, over which we can have no control. Those etiological conditions, however, require too lengthy a discussion, so that our efforts will be towards more obvious causes over which we may exert a more direct control with immediate effect. Most of these are to be found within the oral cavity, or are associated with pressure (thumb and finger habits). It seems, therefore, not unreasonable to expect that certain of these causes may be prevented and others recognized and eliminated before too much damage is done. For instance, in the Journal of the American Dental Association for 1932, Dr. Brandhorst of St. Louis, gives an interesting chart of malocclusion with attributable and what he terms "controllable" etiology. The premature loss of teeth accounted for 37%, and the prolonged retention of deciduous teeth for 19%. Two hundred cases from our own practice, selected in direct sequence as to application for treatment, were remarkably close to his figures. Approximately 50% were actually a result of, or aggravated in severity by the premature loss of teeth or the prolonged retention of deciduous teeth. Where Dr. Brandhorst found 25% of his cases associated with abnormal habits (thumb, finger sucking, tongue biting, lip pressure, posture, sleeping and studying) our figures showed 15%.

The premature loss of deciduous or baby teeth is usually a result of neglect through parents feeling that these teeth will be supplanted with permanent ones, so that retention until normal exfoliation is of little importance. It is a very bad mistake. The presence of these teeth is not only important for

the mastication of food, but they maintain space for their successors. It is important that they be of good form and position and kept so. The beginning of tooth decay, as well as of malocclusion, is insignificant and often necessary care is delayed because the need for it is not appreciated. All deciduous teeth should be examined by three years of age and each six months thereafter, and even the smallest break in the enamel filled.

The first permanent tooth erupts at from six to eight years of age, it is commonly known as the six-year molar. It is the largest and most useful of all the teeth. It is the basis of our most accepted classification of malocclusion, and has been called the keystone of the whole dental arch. It is astonishing how many parents mistake this tooth for one of the deciduous or baby set. They are often consequently neglected until pain or discomfort forces attention. To lose one or more of them in early life, by ten or eleven, for example, is an absolute assurance, unless consideration is given to the consequences, that malocclusion of the remaining teeth, if not already in existence, will be so within a two or three-year period as the forces of occlusion are misdirected. Teeth have a drifting tendency when adjoining ones are missing. If a deciduous or baby tooth is extracted, the adjoining teeth should be maintained in their respective normal positions by some simple appliance until its permanent successor erupts. If it is a permanent tooth that is lost, the space should be closed by drawing the adjoining teeth together, maintaining satisfactory occlusion, or if this is not possible, some sort of artificial replacement to prevent the tipping and drifting of the adjoining teeth should be used.

The prolonged retention of the deciduous or baby teeth beyond their normal time for exfoliation often results in the displacement of their erupting permanent successors. The deciduous incisor teeth usually are lost from six to eight years of age, and retention beyond that period should occasion investigation as to the cause. It is in this region that prolonged retention of the deciduous teeth does the most harm, for the rapidity of eruption of the permanent successors has nothing whatsoever to do with the rapidity of decalcification of their predecessors. One can happen, and frequently does, while the other is dormant. If a permanent tooth erupts out of line and its predecessor is still present the only course to pursue is to promptly extract the deciduous tooth.

Never, however, extract an *adjoining* deciduous tooth in order to give space for a displaced permanent tooth. Each deciduous tooth has a permanent successor and while the displaced permanent tooth may be temporarily benefited, it will soon be seen that the shifting of the erupting permanent teeth closes the space needed for the full complement of teeth and a more complex malocclusion occurs than previously existed.

Pressure habits such as those of finger and thumb sucking, lip and tongue biting, are, we believe, definite etiological factors in malocclusions. Children develop these habits very early, especially during the teething period, or imitate other members of the family until the habit takes such a hold it is well nigh impossible to dislodge. Nevertheless, a determined effort should be made to overcome the handicap. Not all habits induce the displacement of teeth, nor is every malocclusion, which is ear-marked by the parent as the result of a habit, actually so, or possibly even aggravated by it. We do know, however, that many unnecessary and unsightly malocclusions have slowly developed as a result of *pressure* from thumb, finger and tongue. Pressure is the distinguishing point as to whether habits are a cause of malocclusion of the teeth, and there is a characteristic appearance to the displacement of the teeth through directed pressure which catalogues the cause beyond dispute. The tongue placed between the teeth will usually protrude them and cause the upper and lower incisor teeth to fail to normally overlap. Such a condition is called an "open bite." The upper and lower molars and bicuspids occlude but the upper and lower incisor teeth are not infrequently a quarter of an inch apart. The incisive action is completely lost. The *lower lip* placed between the upper and lower incisor teeth will invariably protrude the upper incisors, making them overlap the lower incisors far more than is normal, frequently to such a distance that the latter are not seen when the teeth are closed. Normally, with the teeth closed, the upper incisor teeth should overlap the lowers about one-third of the length of the crowns of the

lower incisors. The *thumb* placed between the upper and lower teeth will nearly always cause a slight protrusion of the teeth on the side which the thumb enters and a slight open bite will result. The lower incisors often are pushed with the knuckle of the thumb towards the tongue and overlap. If the thumb is placed in the middle of the mouth there is apt to be a considerable narrowing of the dental arch with a pronounced protrusion of the upper incisor teeth. The answer as to why we see so many children sucking their fingers and thumbs and not having these characteristic appearances is that it depends upon the *degree of pressure* exerted. The mere placing of the finger in the mouth will not necessarily displace the teeth. The etiologic factor is *pressure,* with the placing of the thumb or finger in the mouth as but evidence of the act. The pressure gives the satisfaction and increases as the child enjoys the act. These habits are difficult to break. Medicaments, thumb guards, elbow corsets have their place, but an ingrained habit will not be so easily overcome, and resort must be made to a cemented appliance upon the teeth designed to interfere with the pressure without being painful.

The physician can materially aid in our efforts to diminish malocclusion of the teeth, for parents will seldom hesitate to accept his suggestions for the welfare of their child. It is entirely within the physician's province and a part of his responsibility to offer suggestions to a parent towards the prevention and elimination of common developmental faults affecting the dental apparatus of a very young child. A dentist is fortunate to see a child as a patient prior to four years of age. In many instances, it is six years, or whenever the first cavity and toothache occurs. By that time the damage is done; extensive and difficult corrective work is the penalty. If the physicians of Wilmington see to it that each child in his practice is started by three years of age to visit the dentist, caries and malocclusion of the teeth will be better controlled, with reparative and corrective work held to a minimum. Our reason for making this suggestion is not selfish. It is justified by facts. By the age of three years all the deciduous teeth are erupted and have been in occlusion for nearly at least a year. If they are structurally weak, decay will be in evidence. The size and form of the deciduous teeth will not permit of much decay without involving the pulp of the tooth. Enamel of the teeth is not a self-repairing structure, and if poorly formed remains so. Subjected to the fluids of the mouth and none too sound oral hygiene, it soon breaks down and decay may become pronounced even by three years of age. Early recognition and attention will not solve such a problem, but it will aid to a large extent in simplifying the many difficulties of later years. For if a child is started to the dentist at three, by the time the permanent teeth are erupting the habit of going has been established and incipient decay in them can be more easily and satisfactorily managed.

Before closing, I should like to answer a question regarding the best time to initiate treatment of malocclusion.

Whether better results are obtainable if orthodontic treatment be instituted early (5-7) or delayed until 12-14 does not to me seem to be of great importance. Far too many malocclusions have been treated satisfactorily and unsatisfactorily at all ages to make one too enthusiastic about endorsing any specific period according to years as being apt to give the best results. Many malocclusions, evident at seven, may have partially or completely disappeared a year or so later, for it is well known that children frequently outgrow functional and structural disorders. But I have always questioned the use of the word "malocclusion" under such circumstances. The occlusal relationships temporarily established are mere alterations in tooth position created by conditions existing for the moment. Relieved of their influence, the teeth immediately seek normal positions in the line of occlusion. That is a natural thing and is in conformity with disharmonies and their adjustment in other structures of the body. The mere fact, however, that by 12-14 all of the permanent teeth except the third molars or wisdom teeth are supposed to be erupted and their occlusal positions, right or wrong, established, seems to indicate that treatment prior to these years might have prevented or simplified much that in later years needed correction.

When, however, it is decided to defer treatment, it is wise to have plaster casts and radiographs made of the teeth and dental arches,

repeating the procedure each six months. There soon will exist records which will prove beyond dispute whether or not the changes which are occurring are favorable or unfavorable. The radiographic examination will inform us of incipient malocclusion for much displacement of the teeth occurs prior to eruption. Many malocclusions are in evidence long before the teeth are in the mouth and there is no justification for waiting until a mass of irregular teeth have emphasized the fact. Even at that we need be in no great hurry to institute corrective measures for we are not dealing with pathological conditions requiring prompt attention, but with changes slow to exert themselves and make evident their ill effects. There is seldom an emergency in the study of a malocclusion which would indicate that we must hurry our diagnosis to the point of insecurity. But since structural bone deformities are, as age progresses, increasingly hard to change, treatment will undoubtedly be more successful the sooner it is undertaken after the inception of the abnormality.

MEDICO-DENTAL RELATIONSHIPS*

B. LUCIEN BRUN, D. D. S.
Baltimore, Md.

It is with the deepest appreciation and gratitude that I welcome this opportunity to assist in a very small way the promotion of an even closer cooperative bond between the medical and the dental professions. The possibilities in this opportunity are so great, and the field so extensive, that I must beg your utmost indulgence towards my humble attempts to review from the point of view of the dentist some of the pertinent problems of mutual interest to the two professions.

Intelligent consideration of the relationship between medical and dental problems, the individual and cooperative efforts of the physician and the dentist to apply scientific principles in effecting solutions to these problems, and the ultimate objectives and results of such cooperative study and application must be predicated upon these facts: that both medicine and dentistry fundamentally deal with the same materials, apply the same principles, and possess a common objective. That is to say, both of these professions attempt to combat and prevent disease by determining the nature of pathology, seeking and removing the cause, and repairing the damage and restoring form and function. Although this paper presents no brief for the consideration of dentistry as a specialty of medicine, nor for the absorption of dentistry by medicine, it does attempt to emphasize the fact that, regardless of technical differences of training and application in these two professions, their nature and background must, of necessity, remain identical.

That such problems exist is inherent in the very nature of dental science, which, although differing in its manner of approach and practice, like other specialties of medicine is fundamentally a health service dealing with abnormal physiology in the interests of the public good.

That the problems of mutual interest to the physician and the dentist are in reality inseparable phases of the same science, the definite relegation of which to one profession or to the other is fundamentally impossible, can readily be determined by a consideration of the scope of the practice and profession of dentistry. Dentistry is a special branch of the healing science which considers, treats, and attempts to correct pathology of the oral cavity, the dental structures, and directly associated tissues. That this area includes a great deal more than the teeth and gingival mucous membranes is evident when the oral cavity is considered as an integral unit of the human organism. The functions of the oral cavity are many, each important to the physician as well as to the dentist. As a part of the alimentary and respiratory systems it acts as the orifice of the gastro-intestinal and respiratory tracts. All of the food for systemic consumption enters the body through the mouth, where the dental and salivary apparatus prepares it for the progressive digestive processes of the alimentary system. The degree of efficiency of the oral cavity as the organ of deglutition, mastication, and preliminary digestion of food has, then, quite naturally a profound effect upon the entire system. Then, consider the oral cavity as an integral part of the respiratory tract, in which capacity it plays an important role as an accessory air passage, as well as a factor of tremen-

*Read before the Delaware Academy of Medicine, Wilmington, May 2, 1938.

dous proportions in the production of articulated speech and vocal expression. Thus, the oral cavity, as a functional organic unit, is undoubtedly of as great interest to the physician in his consideration of the human organism as it is to the dentist, whose particular locus operandi it happens to be.

In order to further our thesis, the oral cavity must be considered not only as a functional unit, but also as an atrium for and source of systemic sepsis and toxemia. It is unnecessary to discuss the admitted fact that the greater part of disease by contagion is contracted through the oral cavity by means of inhalation or ingestion. Thus oral hygiene, again within the special province of the dentist, is also of primary import to the physician. Furthermore, and perhaps of even greater significance, is the consideration of the mouth and dental structures as the exciting factors and contributing foci of systemic sepsis and toxemia. For the past twenty years the problem of oral focal infection has been presenting itself with ever increasing frequency. Cooperative study by physicians and dentists brought about the recognition and understanding of oral focal infection and the role it plays as an exciting and contributing factor in the production of local and systemic disease. Its diagnostic and therapeutic applications have become undeniably advantageous to the patient and his physician or dentist, and the consideration of oral focal infection cannot be omitted from the careful study of any form of systemic pathology. The regretful admission must be made, however, that the theory and practice of this phase of medical and dental health service has from time to time been so grossly exaggerated as to have become a fad. Such a fad carries great danger for a profession and its patients. This attitude happily has been disappearing during the past few years as a result of cooperative study and attention by medicine and dentistry; to the end that the wholesale sacrifice of healthy teeth is being constantly prevented, and the disturbing problem of non-vital teeth receives a saner, more thoughtful consideration. This has been made possible by the increased standards of medical and dental education and the desire of the physician and the dentist to increase their knowledge of each other's problems; the attitudes of the practitioners appear to be constantly converging upon the same path, reaching a more common level of understanding and cooperation.

The oral cavity becomes of even greater importance in our discussion when it is considered as a locus for the manifestation of local and systemic pathology. It is within this field that there is need for even closer medico-dental cooperative efforts. Caries, commonly termed mankind's most prevalent disease, formerly considered a purely local dental affliction, and more frequently treated entirely as such, is undoubtedly, as our research scientists have indicated, a complex problem of metabolic, nutritional, chemical, and possible endocrine disturbances, all being closely related to factors of heredity and environment, the exact nature of which are still far from being determined. The majority of all dental operations is the care of carious teeth, and yet the etiology of that caries is very probably some remote systemic disturbance, while the end result of that caries, if allowed to continue untreated, is devitalization and subsequent root infection of the tooth with possible serious systemic consequences. Therefore, the problem of caries alone, from the standpoint of public health, is one of equal importance to the physician and to the dentist. All other lesions of the oral cavity must be considered in an identical manner (contributing systemic source, local manifestations, and possible systemic sequellae), there being no line of demarcation between the realms of either medicine or dentistry.

It is a well established fact that systemic disease is often manifest in the tissues of the oral cavity, the study and recognition of which constitutes a major contribution to diagnostic symptomatology. In fact, the oral cavity may well be considered a valuable index of health, physical development, and metabolic efficiency.

The oral cavity considered from this angle has received but scant attention by the majority of practitioners. It is, however, already recognized as of great value and will attain an even greater importance as a result of cooperative study. Oral symptoms of systemic disease provide one of the most valuable aids to an early and accurate diagnosis. Oral lesions, changes in the oral mucosa, disintegration and suppuration of the peridental tissues, and even changes in the qualities of the dental

structures themselves are often secondary manifestations and symptoms of a general systemic debility, lowered physical resistance from some remote cause, or obscure pathology. It is incumbent upon the dentist and physician to be qualified to recognize these conditions, not only as local pathological entities, but as oral manifestations of systemic disease. Recognition of such symptoms by the dentist are of the utmost value to the physician in making an early diagnosis and frequently make possible medical attention to a patient who otherwise would not see a physician until the condition had become more extensive. Although such oral lesions may be secondary in nature, they are inclined, if allowed to progress untreated, to become locally destructive processes as well. Thus, they can be adequately treated neither by the dentist nor by the physician, but only through a complete understanding and cooperation on the part of both. Therefore, it can readily be seen that both the dentist and the physician must have an adequate foundation based upon scientific facts in order to be of mutual assistance in giving the greatest possible benefits to the patient in such conditions.

It is my hope that this brief revue of the oral cavity has served to indicate the fact that the consideration of the oral cavity must be from the same point of view, whether made by the physician or by the dentist.

To continue with this outline of the scope of dentistry, let us briefly consider the operative routine of dental practice. The problems of the dentist are fundamentally those of the physician, inasmuch as they deal with local and systemic pathology, the elimination of infection, prosthetic and natural repair of lost or diseased tissue structures, and the improvement of general health. The approach to these problems, whether by the specialist or by the general practitioner, must be made through the familiar channels of observation and study, diagnosis and therapy.

Dentistry observes and studies the oral cavity from the points previously mentioned—as a functional unit of the human organism, the seat of local disease, and as an index of systemic health and development. The diagnosis of the conditions noted by such observation are based upon the findings of the study in conjunction with cooperative medical and dental experience.

Dental therapy instituted as a consequence of proper study and diagnosis may be divided into five separate groups; namely: surgical, bio-mechanical, palliative, systemic, and preventative. The surgical therapy of dentistry consists of any and all instrumentation, from the preparation and filling of the smallest carious cavity to the plastic repair of maxillary injury. It includes the local treatment of peridental and gingival lesions, the extraction of erupted, unerupted, and impacted teeth, under the general heading of exodontia, and intra-oral surgery for the management of cysts, tumors, deformities, extensive infections, and traumatic injuries. That there is and can be no other approach to oral surgery than that embodied in the broad principles of general surgery is evident when one considers that the smallest operation on a single tooth is of identical nature with a major surgical operation in that it embodies operative manipulation of a living tissue, part of an organic unit, with the same possibilities for infection, shock, trauma, and complications, and subject to the same conditions of repair and convalescence. The difference is only in the extent and degree of complexity of the problem, although it is possible that many, through personal experience, having undergone or attended the removal of a seriously impacted tooth or other oral surgical operation of an extensive nature, have considered the same well within the limits of the commonly termed "major operation."

The bio-mechanical phase of dental therapy, which is based upon biologic precepts of growth and development and treats of the restoration of mastication, maxillary relationships, symmetry, articulation, and aesthetics, has been fully covered and considered by Dr. Anderson. Nevertheless, permit me to point out again that this special phase of dentistry does not differ in its principles or application from the fundamentals of medical science or practice. In its treatment of conditions which affect not only the oral cavity, but also the nasal passages, ear, middle ear, diet, nutrition, metabolism, and even the nervous system, this special study is dealing with another problem of mutual interest and importance to both the dental and medical professions.

Palliative therapy is the oldest and least scientific form of dental science. Its purpose is the temporary alleviation of pain and sepsis, and the immediate relief of the more common oral lesions. Although its practice is an invaluable aid in the relief of suffering, it is in itself inadequate, being based more frequently upon proprietary therapy without thought or study, rather than upon the results of scientific consideration and investigation of the problem at hand. Systemic therapy, on the other hand, is an extension of palliative therapy, and includes all phases of dental and medical science. For its background it demands full biologic knowledge and complete medical cooperation in that it attempts to provide adequate, scientific treatment of conditions whose exact nature and source have been accurately determined, and due consideration given to their possible sequellae and systemic complications.

It is only by means of cooperative efforts on the part of the physician and the dentist that the successful practice of preventative health service will be completely possible in either of the two professions. Regardless of the great progress made by public health and immunization services, true preventative medicine or dentistry will not be available until the medical profession, the dental profession, and the general public are more fully cognizant and appreciative of each others' problems. That dental care has an important place in the prevention of disease and the improvement of health standards is undenied, and its assistance to the practice of preventative medicine is fully indicated in the increased health standards of schools and institutions where dentists and physicians are cooperating to the fullest degree.

Dentistry is in reality a field of specialized medical endeavor so extensive as to necessitate the distribution of its practice by means of other special groups. Although individual comprehension of its fundamental principles and basic knowledge is possible, the practice of each of the many phases of dental science must be relegated to those who by reason of special training, mental aptitude, and manual dexterity are best qualified to limit their field of endeavor to specialized effort, without losing sight of the broader principles of their profession as a whole, a situation comparable to specialization in the field of medicine. The inseparability of the two professions is further demonstrated when consideration is made of the identical nature of the fundamental problems of each in the realm of study and research, the ideals of scientific application and practice, and the mutual desire for the ultimate benefits to the patient.

It is with this thought in mind that the suggestion is made that great assistance in the solution of the problems of mutual interest, the promotion of closer bonds of cooperation, and the clarification of progressive contributions to health service may be derived from corporate meetings such as this. The honest discussion of our mutual problems, whether they be scientific, economic or social, upon a basis of sincerity and mutual desire for accomplishment, will quickly be reflected in dental curricula modified to promote a broader understanding of medical science, medical curricula improved to further a better understanding of the problems of the dentist, a more complete consolidation of medical and dental knowledge and experience derived from investigation, observation, and practice, greater benefits to the patient, and dividends to the physician and the dentist in the form of wider horizons, closer cooperation between the professions, and social, economic, and professional advancement.

THE INTERRELATIONS OF DENTISTRY AND INTERNAL MEDICINE*

SIDNEY R. MILLER, M. D.**
Baltimore, Md.

It is not the purpose of this paper to discuss the many-sided subject of the relation of oral infection to systemic diseases, nor to allude to those systemic conditions and endocrine dysfunctions which *may* manifest themselves primarily in the mouth, the latter especially in childhood, and, therefore, should be promptly recognized by the dentist and in turn referred to a competent internist or pediatrician. Ever since the work of Sir William Hunter, in England, in 1910, the address of Doctor C. H. Mayo in 1913, entitled, "Constitutional Diseases Secondary to Focal Infection," and the

*Read before the Delaware Academy of Medicine, Wilmington, May 2, 1938.

**Associate Professor of Medicine, University of Maryland; Associate in Medicine, Johns Hopkins University School of Medicine.

work of Billings and Rosenow at about this same time, assumptions, clinical observations and theories have advanced the now-accepted view that diseases of the teeth and supporting structures *are* intimately related to the health of mankind in all eras of life. Today, and by the majority of dentists and physicians, it is believed that caries, vital degenerating pulps, periapical infections around pulpless teeth, residual infections after extraction, impacted and unerupted teeth, gingival infections and pyorrhoea, may all serve as sources of focal infection, which, by various and devious routes, may be productive of disease elsewhere, notably in the eyes, joints, muscles, heart, gastrointestinal tract and lungs. Granted that the mechanism of secondary focal infection is not precisely clear and does not regularly follow along predictable lines, the fact remains that a healthy body includes a healthy mouth. Healthy mouths, in the literal sense, are relatively rare, since, according to all statistics, the incidence of oral infections is inordinately high. Both physicians and dentists are sworn to health service. It, therefore, logically follows that medico-dental relationships between the two groups, as professions and as individuals, should and must be intimately and intelligently cooperative, looking to the best health for communities in general and individuals in particular; anything short of this could not merit the approval of an enlightened public.

In order to understand why medico-dental relations have *not* been, until recently, as close as they should be, it is necessary to recall some interesting historical and evolutional facts. The rather anomalous position occupied by dentists over so many years may, in part, be attributed to the fact that for centuries teeth were regarded "as if they were something extraneous to the body, something essentially inanimate, because of their lack of a visible capacity to repair themselves." Now it is true that teeth are virtually incapable of self-repair; that injured enamel does not heal; that once it is removed it is not restored. None of the common dental diseases are curable by drugs, though most are amenable to repair by mechanical means. Since teeth secrete nothing of value elsewhere in the body, they may all be removed without jeopardy to the body as a whole, and artificial substitutes can be supplied for the efficient maintenance of dental function or mastication. "These conditions that do *not* apply collectively to any other part of the body, explain in part the traditional unconcern among physicians regarding the teeth, and largely account for the development and maintenance of dentistry as a separately organized and now recognized autonomous profession."

For a great many years dentists were regarded as members, one might say, of a barber-surgeon union. Later on they were considered essentially as pullers or restorers of teeth, plying a somewhat itinerant and charlatanistic trade. "In the United States, goldsmiths, jewelers, umbrella makers, blacksmiths, wig makers, tinkers, engravers, and jacks of all trades became the most numerous practitioners of dentistry, which for many years remained a simple trade and a mechanical subsidiary to medicine." Later on, and practically during the entire nineteenth century, "the dentist lived in a No Man's Land, between a profession and a trade," and even today, in either the prejudiced or uninformed mind, he is apt to be regarded more as a mechanic, plying a manual craft.

In this country the dental profession is relatively a young one. The first dental college established in America was founded in Baltimore in 1838, and it is of more than passing interest that its incorporators, Hayden, Harris, Bond and Baxley, all of them possessing the degree of Doctor of Medicine, sought to have the Baltimore College of Dental Surgery, as it was ultimately called, founded under the guidance of the University of Maryland Medical School. Their suggestion was rejected by the then Medical Faculty, in the words that "the subject of dentistry was of little consequence, and thus justified their unfavorable action." Numerous other attempts to establish dentistry under the direction of medical schools, in New York and elsewhere, met with a similar verdict, and it may truthfully be stated that "ignorance, intolerance and professional vanity achieved another of their woeful triumphs." In the face of such open rebuffs, independent dental schools were founded and the development of dentistry as a profession separate from medicine ensued and has continued ever since. It should never be forgotten that those pioneers responsible for the

initiation of this movement wisely based their curriculum upon the then existing medical sciences. Despite this, dentistry's realization of its need for the medical sciences was not keen enough to give to that instruction the quality it bears in medical education, nor to impart to dentistry the character of a specialty of the practice of medicine.

Between 1840 and 1900 the practice of dentistry was mainly limited to the extraction of carious and aching teeth, and to the construction of dentures for individuals who unfortunately had become edentulous. Gradually, as operative and prosthetic dentistry developed, the technical complexities involved demanded so much effort that there was neither time nor energy left for other kinds of medical work or interest. As a matter of fact, the majority of dentists were not trained in medicine at all, and physicians certainly not in even the rudiments of dental practice.

Since 1900 the profession of dentistry has steadfastly advanced along many lines, especially through the contributions of bacteriology, pathology, roentgenology and nutrition, until now it rightfully occupies a prominent place in internal medicine. It is not a specialty of medical practice; rather, "it is a natural division of health service: that is to say, it is a natural division of medicine itself." The turning point came perhaps in 1909, when a certain Doctor William J. Gies, of Columbia University, himself neither a physician nor a dentist, but a member of a medical faculty still disdainful of dental practice, had a vision to advance both the dental profession and dental research. To quote his own words, "I soon realized that dental practice should be regarded, in the public interest, as preventive and restorative *health*-service primarily, not chiefly as superficial mechanical *comfort*-service; also that dentistry needed major development, in research and in practice, on the biological side; that the *minimum* requirements for admission to dental schools should be not less than the minimum for admission to medical schools, so that those *entering* the two professions would be of the same personal and mental caliber; and that the medical and dental professions should work intimately together, in mutual understanding and respect, in the interest of the patient." This vision ultimately led to an extensive investigation of dental education in the United States and Canada, conducted by Doctor Gies under a grant from the Carnegie Foundation. This was completed and published in 1926. This comprehensive report exerted a tremendous effect in clarifying the important issues in the dental field of professional training, and subsequently led to the establishment, in 1930, of a Dental Curriculum Survey Committee, whose final report, embodying its aims, ambitions and objectives, was published in 1935, and, in the author's opinion, should be perused by all farseeing medical practitioners, deans of medical schools, and dentists alike.

No doubt the question arises—What has all this to do with the interrelations of internal medicine and dentistry? The answer is, first, that the two professions, in respect to health service, have fundamentally identical aims, and hence cannot be dissociated one from the other, and, second, that the desired and inevitable cooperation or interrelation between dentistry and medicine will be hastened by an aroused appreciation of, and actions by the *medical* profession, concordant with a number of facts too poorly recognized by it. Some of these, each of which constitutes a theme in itself, can be but briefly enumerated:

(1) The profession of dentistry is now highly organized, progressive and supervised, thoughtfully and stringently regulated by law in every state of this Union. Its 60.000-odd licensed practitioners perform invaluable health services, for which they have been trained under the auspices of 39 dental schools or colleges, none of which are any longer proprietary, while most of them are integral parts of well-recognized universities, with their affiliated medical schools. While dental standards have risen, most medical faculties have continued to be unwilling to teach medical students even the "medical" part of dentistry. "If interest in the 'medical' part of dentistry continues at its present rate of growth in the medical schools of the United States, it may be expected that by 1985 all the medical schools in this country will devote—to required work in dental and oral relationships—an average total of 8 clock hours in the entire undergraduate curriculum." There is much for the medical profession to think about, in this statement.

(2) The practice of dentistry—on the teeth and the contiguous tissues, with their varied disorders, diseases, mechanical anomalies, and sequelae—*must* be focused on the oral cavity, precisely as an histologist must focus his endeavors on a microscopic field. Dental practice consists largely in *doing* within the mouth, by the dentist *himself*, not in advising or prescribing for the patient. Breadth of knowledge is of no less value to the dentist than to the physician or pathologist; but the application of this does not of necessity change either the scene or the technique. But it is to be remembered that dental practice does not embrace only mechanical dexterity and precision, as representative of therapeutic exactness. Dental practice includes also the opportunity and obligation to detect oral symptoms of various systemic maladies, of communicable diseases and of abnormalities in the domains of laryngology, rhinology, dermatology, otology, etc.; also, to give to patients advisory health service on such subjects as dietetics, hygiene, the prevention of diseases, and, not least of all, to urge the necessity of competent medical opinion in the patient's behalf.

(3) It would be both stupid and impossible to make dentistry a specialty of medical practice, as has been advocated by some in both professions; this for the reasons that both the length of time and the costs involved would be prohibitive, the results dispersive in quality, and the objectives gained in no sense worthy in the eyes of the dental profession itself, or the public at large. "Dentistry should be, and is being developed into the full health-service equivalent of a specialty of medical practice."

(4) No profession that lacks the freedom and lure of self-determination can offer an attractive and satisfying career to its practitioners, and this, incidentally, is a condition primarily essential to the best and most comprehensive public service.

(5) Some years ago, the late and beloved Doctor William S. Thayer, in commenting on the Harvard Dental School, penned these words: "The ophthalmologist and the physician meet on common ground: they are members of the same medical societies. Their subjects are discussed at common meetings. The dentist and the physician do not meet on the same common ground. This is unfortunate for the physician, for the dentist and for the patient. The circumstance that the requirements for admission to dental schools have been lower, and the circumstance that the amount of general and medical education demanded of the dentist has been less than that demanded of the physician and surgeon, have worked to place the dentist at a disadvantage in the medical and general community. This has not only been a disadvantage to the dentist, it has been a very real disadvantage to the medical profession. It is, we believe, of importance to medicine that the time may come when dentistry will be, as it should be eventually, one of the specialties of surgery. As the years go by, the importance of that branch of surgery practiced by the dentist becomes more and more evident, and the interdependence of dentistry and the other branches of the art of medicine and surgery clearer." Independence with interdependence represents a realistic and commendable foundation for honorable and valuable relations between the two professions, and on this basis dentistry desires intimate correlation. The dental profession, by its own efforts, has sought successfully to raise its educational standards to a level that merits this. It is interesting to know that all dental schools will require at least two years of accepted work in an accredited academic college, beginning in 1937, and that nearly half the schools now exact this requirement.

(6) There is no reasonable basis, worthy of serious consideration, for a continuance of the indifference, in hospitals, in medical faculties and medical schools, and among physicians, to the importance of dental diseases and the broad value of adequate dental health service. This indifference, understandable in the past, and fortunately on the wane, can no longer be in accord with any principle of the faithful recognition of public or professional responsibility.

The fundamental differences in medical and dental practice are, of course, reasonably obvious. Dentists clearly recognize the fact that the term "Medical Practice" includes the whole body; that it is not restricted to any single part or region; and that it is more actively interested in the various dynamic phases of life and disease, rather than in those tissues

and organs which are essentially static. Obviously the domain of medical practice demands a far greater breadth of information, understanding and discernment, combined with advisory capacity, than mere skillful manual dexterity. The dental profession, clearly recognizing both the wider scope and the more intimate relationships to the immediate life of the patient, grants the fact that in any useful interrelationships medicine must and should be the senior partner and presumably the director and leader in matters of mutual concern. Frankly conscious of these facts, the more far-seeing minds in the dental profession have recognized the fact that both dental education and dental practice must be made stronger in its content and understanding of the fundamentals of medical science, so that in turn dental science, dental research and dental practice will become increasingly more learned and effective, not only in terms of practice but ultimately so that individual physicians and dentists, in their consultations and practical cooperation, will more or less speak the same language without needing the aid of interpreters. Success along these lines would unquestionably be more rapid and fruitful if the medical faculties in the same university would give more effective assistance, instead of their too frequent indifferent help. Both medical and dental interrelationships should include more intimacy in both hospital and dispensary, as well as private practice, so that both dental graduates and medical graduates would be far better informed than they are now, regarding the clinical relationships of dental and medical practice.

In conclusion, it would seem obvious that whatever exists in the present state of affairs which impairs mutual respect, esteem or understanding should be removed by attention and effort on the part of both professional groups. Since medicine occupies by far the broader territory, it should be the leader in all accredited efforts to enhance the mutual interrelationship responsibilities, and should consistently seek to adopt a relationship toward dentistry similar to that of a "big brother," and not like that of a bully. "Sound progress of the dental division of medicine is one which ought to be welcomed by every thoughtful physician, because it means lifting one more division of the whole practice of medicine on to a more intelligent, a more scientific and a more efficient basis. We are all, whether we will or no, part of the same body of learning and practice. None of us can be depressed or unworthy without affecting unfavorably the whole body. None of us can make advances in knowledge or skill or character without once more lifting the level of the whole, and so the medical profession at large will find it is to its interest and to its credit to foster every advance that is made by the dental branch of the healing art."

MISCELLANEOUS

Rocky Mountain Spotted Fever

The advent of warm weather marks the appearance of the dog tick (Dermacentor variabilis), the principal vector of Rocky Mountain spotted fever in the eastern states. The recognition of this disease in Virginia was established less than ten years ago, but because of the lay publicity which it has received, its presence has caused no little concern in some areas of the state. Therefore, it has been thought wise to review briefly some of the features of this illness as it occurs in Virginia.

An average of approximately fifty cases per year of Rocky Mountain spotted fever is reported to the Virginia Department of Health. The disease has been confined principally to that area of the state which lies east of the Blue Ridge Mountains, with a few cases in the mountain area and only a rare occurrence in the western portion. The cases have occurred chiefly in the late spring and summer (May through September) corresponding to the months of greatest activity of the tick population.

The disease is most prevalent in rural dwellers, with farmers and members of their families comprising the majority of the cases. The group showing the next highest incidence are those whose occupation or pleasure takes them into tick-infested woods or fields; foresters, hunters, campers and the like. All ages are attacked and sex is no factor aside from the greater risk of infection of males by virtue of their work.

The onset of the disease may be sudden but usually begins with a prodromal period of a

few days in which general lassitude, fatigue, vague aches and pains and dull headache are experienced. This is followed by severe headache in the majority of cases, fever which rapidly rises to as high as 104°-105° in some cases, and occasionally one or more chills. Soreness and pain in the muscles are frequent and a definite stiffness of the neck and back is observed in a fair number of instances. Prostration may be marked and restlessness and insomnia are not infrequent. Delirium, disorientation, or coma may occur in the severe cases. Constipation frequently is observed, and occasionally abdominal tenderness. Bronchitis with scant to non-productive cough is common. The characteristic rash usually appears between the second and sixth day, and begins first on the ankles and wrists and spreads centrally to the legs, arms, back, chest and occasionally to the face and scalp. The palms of the hands and soles of the feet may be involved. The rash is at first pink or brownish pink and macular in character, becoming more pronounced in color and, finally, definitely petechial in some cases. When well established, the rash may appear distinctly purple-red. Confluence of lesions has been reported and necrosis of the skin has been observed in severe cases.

The pulse usually is low in proportion to the temperature at the onset, but may become unusually fast, particularly in the terminal stages of the severe cases. The course of the disease usually extends over a two to three-week period with the temperature subsiding by lysis.

The leukocyte count is of no particular value as an aid to diagnosis. An agglutination reaction with Proteus X2 and X19 is frequently exhibited by the patient's blood serum by the end of ten to fourteen days of the illness.

The case fatality rate observed in Virginia has been approximately twenty to twenty-five per cent. As in other acute infections the rate is highest in very young children and older adults.

A definite history of tick bite can usually be elicited in about 50 per cent of the cases though the exact date the bite occurred is not, as a rule, definitely established except in a few of the cases.

The diagnosis of Rocky Mountain spotted fever when a definite tick bite history is given and when the characteristic eruption has appeared is usually simple. The disease must be differentiated from endemic typhus, in which the rash begins centrally and spreads peripherally, in contrast to the peripheral origin of spotted fever. Typhus occurs most often in the colder months, and affects urban dwellers chiefly. Before the appearance of the rash, spotted fever may be mistaken for cerebrospinal meningitis or poliomyelitis, because of the frequent occurrence of stiff neck and back and pain and soreness in the muscles. The presence of a slow pulse with high fever may erroneously suggest typhoid fever.

Prevention of Rocky Mountain spotted fever is concerned with (1) avoidance of areas known to be tick infested, (2) removal of ticks from body before they have become attached, (3) vaccination.

The use of clothing that will prevent ticks from gaining access to the body is advisable for those who must necessarily work in tick infested areas. A thorough examination of the body twice a day, at noon and upon retiring, is advisable even when protective clothing has been used. Particular attention should be given the hairy areas. Campers, hunters and other pleasure seekers should avoid old roads and paths with dense undergrowth and overhanging bushes. The best camp site is one where there is little or no low vegetation.

A specific vaccine prepared in the United States Public Health Service laboratories has proven of value in the prevention of Rocky Mountain spotted fever. The vaccine is prepared from the tissues of infected ticks and is given in two doses of 2 cc. each at five-day intervals. The immunity conferred is considered to last approximately one year. The use of this vaccine in Virginia has been confined principally to those persons whose occupation brings them into frequent contact with areas heavily infested with ticks. The vaccine is distributed to physicians upon request without charge. A small supply is kept in the Virginia Department of Health. The vaccine is of no value in the treatment of the disease, and its use for this purpose is ill-advised.

Va. Med. Mo., July, 1938.

EDITORIAL

DELAWARE STATE MEDICAL JOURNAL

Owned and published by the Medical Society of Delaware. Issued about the twentieth of each month under the supervision of the Publication Committee.

W. EDWIN BIRD, M. D. ..... Editor
Du Pont Building, Wilmington, Del.

A. V. GILLILAND, M. D. ..... Associate Editor
State Welfare Home, Smyrna, Del.

M. A. TARUMIANZ, M. D. .....Associate Editor & Bus. Mgr.
Du Pont Building, Wilmington, Del.
Telephone, Wilmington, 4368

Articles sent this Journal for publication and all those read at the annual meetings of the State Society are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Manuscript should be sent in typewritten, double spaced, wide margin, one side only. Manuscript will not be returned unless return postage is forwarded.

The right is reserved to reject material submitted for either editorial or advertising columns. The Publication Committee does not hold itself responsible for views expressed either in editorials or other articles when signed by the author.

Reprints of original articles will be supplied at actual cost, provided request for them is attached to manuscripts or made in sufficient time before publication.

All correspondence regarding editorial matters, articles, book reviews, etc., should be addressed to the Editor. All correspondence regarding advertisements, rates, etc., should be addressed to the Business Manager.

Local news of possible interest to the medical profession, notes on removals, changes in address, births, deaths and weddings will be gratefully received.

All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

It is suggested that wherever possible members of the State Society should patronize our advertisers in preference to others as a matter of fair reciprocity.

Subscription price: $2.00 per annum in advance. Single copies, 20 cents. Foreign countries: $2.50 per annum.

VOL. X JULY, 1938 No. 7

AN IMPORTANT MEETING

There will be held in Washington, D. C., the middle of July, a meeting which should be of extreme importance to the medical profession. This meeting is called by Miss Josephine Roche as chairman of the Interdepartmental Committee to Coordinate Health and Welfare Activities of the Federal Government. Its purpose superficially is an excellent one, namely to weave together the various departments in the Federal Government which have to do with the care of the sick and the health of the nation as a whole. The real intent of the committee should be to avoid duplication of effort and work in the different Federal departments to which various phases of the health of the nation have been delegated.

While superficially the purposes of the meeting are excellent, there is grave fear in the minds of many thinking physicians who have the best interests of the medical profession at heart, that the purpose of the meeting is not so much to carry out its suggested purposes but rather to turn the meeting into a means of establishing state medicine. In other words, it may be the first gun of a sincere effort to organize and institute state medicine. The American Medical Association will have certain important representatives in attendance but there have been invited also a large group of other individuals whose interest in medicine is peripheral rather than central. They have grand ideas and grandiose schemes for the care of the indigent. They probably will outnumber by far members of organized medicine and will be in a position to put over pretty much anything they wish.

Miss Roche was to have read a paper before the House of Delegates of the American Medical Association. She prepared this paper but was unable to attend and her place was taken by Assistant Surgeon General Draper of the United States Public Health Service. Miss Roche is undoubtedly a woman activated by the highest motives but it is the feeling of many medical men that the recent national health survey of the Public Health Service, upon which she predicated and based most of her statements, does not bring out the true picture of illness and the effect of illness throughout this country. It is very easy to believe that the obvious fact that the lowest income group have more days of disability per capita than do the relatively well to do, but it is not right nor fair to assume that this is due to inadequate medical care. Rather it would seem more proper to state that improper housing and inadequate food are the responsible factors. Likewise it does not seem that there are twenty millions of people in this country who do not have available hospital facilities. On the contrary the American Medical Association has statistics which show that there are less than two million people in this country who are farther than thirty miles from a hospital where attention would be given to the poor man as well as the well to do. Most of these two million people are in communities where there are as few as five or ten people living in a square mile, in other words in the

great vast, poorly inhabited sections of the country. With the excellent good roads that are now existing throughout the United States it will be possible for any person, except the very small percentage of people in the wilds to obtain hospital service in an emergency in a very short time. Furthermore in case of chronic disease it is possible to have hospital care except for a very few instances. Here in Louisiana our state hospitals take care of the difficult and problem cases in very large numbers. Additional facilities are being provided by the state government in the form of hospitals established in different sections of the state other than the extreme north and extreme south. It seems almost unbelievable that a Louisianian cannot get good medical care. He can and does; the state provides it through its hospital service which has been running for many decades.

Because of the necessity of having exact facts, it is of extreme importance that the medical profession cooperate whole-heartedly and conscientiously with the Bureau of Economics of the American Medical Association in collecting the necessary facts which have to do with medical and dental practice, nursing service, medical services arranged through relief agencies and many other data which will give a true picture of medical care in this country. The parish medical societies' secretaries will probably have to bear the brunt of this cooperative effort of organized medicine. It will be a hard job, and time consuming, but it should be done. Many state and county societies have already gone into this survey wholeheartedly. Some of the county societies have acquired part-time help to aid the county society secretary. For example, in Birmingham, the Jefferson County Medical Society has appropriated $500 to help defray the expenses necessary to make the survey. If all parish (county) and state societies back up the American Medical Association in this way organized medicine will have definite figures, definite facts and positive information to refute the frequently wild statements of those whose minds are inclined to the regimentation of everything, be it through a Nazi or communistic groove.

Editorial, *New Orleans M. & S. Jour.*
July, 1938.

Delaware Doctors Oppose Socialized Medicine

Approximately 79% of the doctors of Delaware are opposed to a reorganization of medical practice in the direction of socialized medicine, it is revealed today in the final results of a physician's referendum on socialized medicine conducted by *Modern Medicine*, published in Minneapolis. A total of 16,711 ballots were cast by doctors throughout the nation, giving the greatest direct expression of medical opinion ever recorded on any topic whatsoever, and indicating that the trend of medical thought—except for New York City—is definitely away from socialized medicine, the editors announce.

On the question as to whether public funds should be used to pay the cost of medical care for the indigent and low income group, only 47% of Delaware doctors voted in favor. However, 84% voted support of the present policies of the American Medical Association in studying all plans of making a high standard of medical care available to all people under the control of each community.

Of the specialists in Delaware, 80% voted against reorganization, of the general practitioners, 79%. Among doctors in metropolitan centers in Delaware (cities over 50,000), 80% voted against reorganization. Of the specialists, only 40% favored the use of public funds to pay for medical care, of the general practitioners, 50%.

The final results obtained in *Modern Medicine's* referendum on socialized medicine are at great variance with the recently published "Gallup poll," which, under the sponsorship of the American Institute of Public Opinion, reported that 7 out of 10 doctors favored the principle of health insurance. According to the *Modern Medicine* referendum, in which 16,711 doctors' votes gave a true cross-section of medical opinion throughout the whole United States, active practicing doctors in the United States definitely oppose the reorganization of medical practice by a vote of two to one.

They know of very few cases, not more than one in ten, where individuals or families, claiming inability to pay, are not getting whatever medical care a physician himself can provide. They show a slight preference (55%)

for the use of public funds to pay for medical care for the indigent and low income groups. They strongly approve the present policy of the American Medical Association, by a vote of 17 to 3.

This vote shows a definite trend of opinion among U. S. doctors away from socialized medicine. In 1935 a similar survey was conducted by *Modern Medicine*. In 1935, 43% of 6,044 doctors voting favored a change in the administration of medical practice. In 1938, two out of three doctors, among the 16,711 voting, oppose reorganization.

Among doctors who replied yes to the question on the physicians' referendum which read: "Do you know of any case in your community where an individual or family, claiming inability to pay, has been refused whatever medical care a physician could provide?", many amplified their answers to the effect that the so-called "claim" of inability to pay was false and that care was sometimes refused to individuals who spent their money on luxuries, vacations, transportation, liquor and gambling while owing bills and telling the doctor they could not pay anything at all for his services.

The greatest opposition to reorganization of medical practice is found among country doctors, general practitioners who have been in practice for more than 15 years. Reorganization of medical practice finds most favor among general practitioners who are earning less than $3,000 a year while practicing in large cities.

The President-elect—Dr. Rock Sleyster

The selection of Dr. Rock Sleyster, Wauwatosa, Wis., to be President-elect of the American Medical Association, at the annual session in San Francisco, June 16, is a recognition of long and devoted service to organized medicine in the United States. For thirty-five years Rock Sleyster has continuously held a position of service to the medical profession. In 1903 he became secretary of the Calumet County Medical Society, continuing for six years. He was elected assistant secretary of the State Medical Society of Wisconsin and secretary in 1914. He remained as secretary until 1923 and was elected president in 1924. Since 1925 he has been treasurer of the society. From 1918 to 1923 Dr. Sleyster was editor of the *Wisconsin Medical Journal*. From 1915 to 1926 he served as delegate to the American Medical Association and during the last four years of that period was Vice Speaker of the House of Delegates. He became a trustee of the American Medical Association in 1926 and served continuously until June 1937, acting as chairman of the Board from 1935 to 1937. His professional record is likewise inspiring. He was graduated by the University of Illinois College of Medicine in 1902. After practicing medicine at Kiel and Appleton, Wis., he became physician to the prison for the criminal insane at Waupun, Wis. Here he did research, much of which was reported in leading medical periodicals. Later he directed the building of the Wisconsin Hospital for the Criminal Insane and thereafter became medical director of the Milwaukee Sanitarium at Wauwatosa, which position he still holds. He is a fellow and has been a member of the board of governors of the American College of Physicians and a member of the American Psychiatric Association, the Association for Research in Nervous and Mental Diseases and the Central Neuropsychiatric Association. It is a noteworthy fact in his career that Dr. Sleyster has been unanimously elected to every office which he has occupied, never having been opposed by any other candidate.

—*Jour. A. M. A.*, July 2, 1938.

BOOK REVIEWS

The Romance of Proctology. By Charles Elton Blanchard, M. D. Pp. 284. Cloth. Price, $4.50. Youngstown' Medical Success Press, 1938.

This is a rather readable recital of the origin and development of ambulant proctology.

Standards of the Diagnosis and Treatment of Cancer. By the Executive Cancer Committee of the Iowa State Medical Society. Pp. 168. Paper. Iowa City: Athens Press, 1938.

This little manual is primarily designed to assist the general practitioner in making a diagnosis and in outlining a treatment for the many cases of suspected malignancy that will be unearthed by the Women's Field Army and others. The work is concise and authentic—a very valuable ready-reference manual.

Everything the Hospital may need in:

HARDWARE
CHINA WARE
ENAMEL WARE
ALUMINUM WARE
PAINTS
POLISHES
WASTE RECEPTACLES
JANITOR SUPPLIES
CUTLERY

Delaware Hardware Company

(*Hardware since* 1822)
2nd and Shipley Streets
Wilmington, Del.

PARKE'S
Gold Camel
TEA BALLS

INDIVIDUAL SERVICE

"Every Cup a Treat"

L. H. PARKE COMPANY

Coffees Teas Spices
Canned Foods Flavoring Extracts
Philadelphia :-: :-: Pittsburgh

Garrett, Miller & Company

Electrical Supplies
Heating and Cooking Appliances
G. E. Motors

N. E. Cor. 4th and Orange Sts.
Wilmington - - - - Delaware

ICE SAVES
FOOD
FLAVOR
HEALTH

For a Few Cents a Day

For

Rent

Not Just A Lumber Yard

but a source of supply for almost any construction or maintenance material.

"Know us yet?"

J. T. & L. E. ELIASON

INC.

Lumber — Building Materials

Phone New Castle 83

NEW CASTLE DELAWARE

Baynard Optical Company

Prescription Opticians

We Specialize in Making Spectacles and Lenses According to Eye Physician's Prescriptions

5th and Market Sts.
Wilmington, Delaware

Freihofer's

"PERFECT LOAF"

NOW

Policed for Freshness

Adding Perfect Freshness to Perfect Quality

For High Quality of Seafood:

Fresh-picked crab meat, shrimp, scallops, lobsters, fresh and salt water oysters.

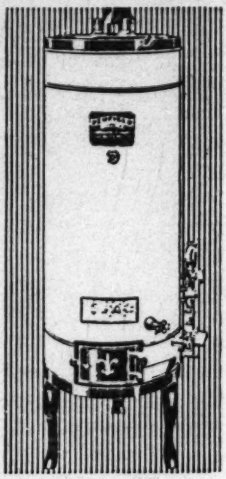
All Kinds of Other Seafood Wholesale and Retail

Wilmington Fish Market

705½ KING STREET

Real Automatic Water Heating by GAS

Economical
Sure
Fast



10c a day will supply 50 gallons of Hot Water for less than the cost of a pack of cigarettes

DELAWARE POWER & LIGHT CO.

SHARPLESS "The Velvet Kind" ICE CREAM

Tested and Approved Good Housekeeping Bureau Good Housekeeping Magazine

Awarded Good Housekeeping Seal of Approval

For Rent

BURN-BRAE

Founded by the late Robert A. Given, M. D., 1859

A Private Hospital for Mental and Nervous Diseases and Alcoholic Cases.

CLIFTON HEIGHTS, Delaware County PENNSYLVANIA

Long Distance Telephone, Madison 535, via Philadelphia

Herbert C. Stanton, M. D., Supt.

Flowers . . .

Geo. Carson Boyd

at 216 W. 10th Street

Phone: 4388

Fraim's Dairies

Distributors of rich Grade "A" pasteurized Guernsey and Jersey milk testing about 4.80 in butter fat, and rich Grade "A" Raw Guernsey milk testing about 4.80. This milk comes from cows which are tuberculin and blood tested.

Try our Sunshine Vitamin "D" milk, testing about 4%, Cream Buttermilk, and other high grade dairy products.

VANDEVER AVE. & LAMOTTE ST. Wilmington, Delaware

Blankets — Sheets — Spreads — Linens — Cotton Goods

Rhoads & Company

Hospital Textile Specialists Since 1891

Manufacturers — Converters
Direct Mill Agents
Importers — Distributors

MAIN OFFICE
401 North Broad Street, Philadelphia, Pa.

FACTORY
Philadelphia, Penna.

Plumbing, Heating and Air Conditioning Equipment

SPEAKMAN COMPANY

Showers, Plumbing Fixtures and Accessories for Hospitals and Institutions

SALES AND DISPLAY ROOMS
816-822 Tatnall Street
Factory—30th and Spruce Streets
WILMINGTON DELAWARE
Telephone: 7261-7262-7263

NEWSPAPER And PERIODICAL PRINTING

An important branch of our business is the printing of all kinds of weekly and monthly papers and magazines

The Sunday Star

Printing Department

Established 1881

Copyright 1938, Liggett & Myers Tobacco Co.